NOAA's Great Lakes Region

The Great Lakes are a unique and extraordinary natural and cultural resource; however, aquatic invasive species, pollution, harmful algal blooms and the loss of ecosystem services threatens the health of human and biological systems in the region.

Geography and Environment

The Great Lakes were formed nearly 20,000 years ago when the earth's climate warmed and the last glacial continental ice sheet retreated. Today, the Lakes span 95,000 square miles, forming the largest surface area of freshwater in the world.

The Great Lakes embody substantial ecological significance, holding 90% of all surface fresh water in the United States, forming the second longest coastline in the United States with over 10,000 miles of coasts and 500 beaches, housing the world's largest freshwater sand dunes and providing habitat for more than 3,500 species of plants and animals in the regions forests, marshes, wetlands and dune communities that comprise Great Lakes ecosystems.

Social and Economic Context

The Great Lakes are governed by two countries, eight states, two provinces and many local and tribal governments and provide vast amounts of fresh water that have fostered the history, culture, economy and wellbeing of people in this region of the United States for centuries. The Great Lakes basin is the ancestral homeland of 35 federally recognized Indian Tribal nations, contains over 200 submerged shipwrecks in the Thunder Bay Marine Sanctuary and supports more than 35 million United States residents who live, work and play in the region. From fisheries, agriculture and tourism to international commerce along a 1,000 mile border and power generation and cooling water for industry, the Great Lakes fuel the economies of the Great Lakes states, contributing $50 billion dollars annually to the eight Great Lakes states from boating, hunting, fishing and wildlife watching alone.

Capabilities and Challenges

NOAA can leverage existing partnerships under the Great Lakes Regional Collaboration Strategy to work with international, state, local, and tribal governments, research institutions, environmental organizations and other federal agencies on nine priority issue areas identified by the Great Lakes Council of Governors and the NOAA Great Lakes Regional Collaboration Team. The Team will build upon the existing regional collaboration authorized by the May 2004, Presidential Executive Order, which recognized the Great Lakes as a "national treasure" and mandated collaboration between agencies and governments in the region.

The future health of the Great Lakes region is threatened by anthropogenic impacts resulting in over 180 identified aquatic invasive species, 41 contaminated areas of concern, toxic and non-point source pollutants, coastal erosion and development, harmful algal blooms and shifting weather patterns due to climate change.

Water quality and quantity is a significant concern for not only beach goers and fishermen but also the thirty million people who rely on clean fresh water from the Great Lakes for drinking, recreation and industrial use.

NOAA in the Great Lakes will draw upon the expertise of its regional offices and partners to champion the improved development, implementation, and delivery of products and services in the regional priority areas. Existing NOAA research, forecasting, assessment, restoration and other capabilities in the region are currently being applied to understand and control aquatic invasive species, reducing weather impacts on commerce and transportation, protecting and restoring habitat, addressing contaminated areas of concern, sustaining use of water resources, and supporting sustainable use and development practices.

The Great Lakes account for 90% of U.S. freshwater resources.